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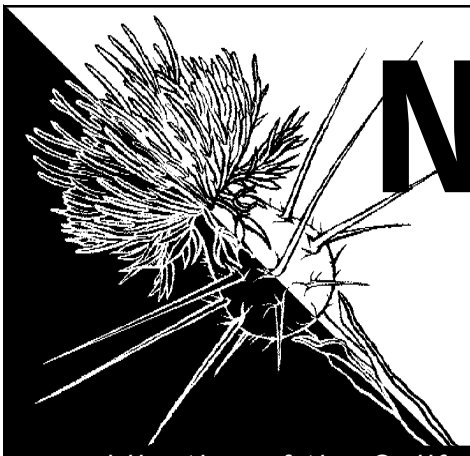

Noxious Times

a publication of the California Interagency Noxious Weed Coordinating Committee

In this issue...

Weed Free Forage Programs: Can They Curb the Spread of Wilderness Weeds?

By Bonnie Hoffman

As noxious weeds continue to pop up throughout the nation, the Bureau of Land Management (BLM), the US Forest Service (USFS), and the National Park Service (NPS) have begun to work together towards preventative measures. Combined, these three federal agencies oversee 541.7 million acres of U.S. land, and have been three of the main players in instituting weed free forage programs in a number of states. Federal land managers already actively control weeds through mechanical, biological, and chemical controls. But recently attention has turned to preventing the arrival of weeds on federal land, and agencies have looked towards weed-contaminated animal feed as a source of invasive plants.

Federal lands host recreational horseback riders, horsepackers, and livestock, and with these animals comes straw and hay. Forage containing weed seeds may fall from bails or reach the ground through animal manure and lead to the establishment of new noxious weed populations. Several aggressive weeds are thought to have entered federally protected areas from weed seed contained in horsepackers' hay and straw. In addition, straw bales used in construction or for erosion control may introduce undesired weed seeds.

Federal, state, and local agencies have combined forces to institute hay certification programs in a number of states. Within a weed free forage program, responsibility is divided among the different agencies to maintain certain aspects of the program. The BLM, USFS, or NPS can issue closure orders for certain regions, closing their lands to hay and straw not certified to be weed-free. Certified forage is then required for animal feed and for mulches used in erosion control, construction, or on rights-of-way. Ranchers with grazing livestock would be largely unaffected by closure orders because the USFS and BLM do not allow supplemental feeding of animals on their land. In addition to issuing closures, BLM, USFS, and NPS enforce the use of certified forage on their lands. State and local agencies work to set and implement a certification program for weed-free forage. County staff inspect crops in the field prior to harvest and certify feed that is free of weeds.

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Chairman's Message: Nate Dechoretz

"Blame it on El Niño." How many times have we heard that statement over the past ten months? Almost every segment of our society has been affected by this phenomenon. The growth and distribution of noxious weeds, especially yellow starthistle, are no exception. I think anyone who travels the Central Valley from Bakersfield to the Oregon border or from the coast to the foothills has recognized how extensive this year's infestation has been.

The extent of the yellow starthistle infestation in California already demonstrates the importance of three principles agreed to by members of CINWCC (California Interagency Noxious Weed Coordinating Committee) and presented in the Memorandum of Understanding signed by the signatory agencies. First, prevention is the most cost effective and environmentally safe method for addressing noxious weeds. Failure to adhere to this principle will surely lead to the widespread distribution of other noxious weeds that will be as bad if not worse than the current yellow starthistle infestation.

Second, public as well as private landowners and managers must work together and contribute significant resources to deal with the problem. In other words we must be responsible neighbors.

Third, we must adhere to an integrated pest management approach toward the control and eradication of these pernicious pests. This includes a strong commitment to investing in and utilizing biological control methods for control of noxious weeds, such as yellow starthistle, that are already widely established in California. Natural enemies remain the primary means of permanently reducing the level of infestation and mitigating the impact of noxious weeds on our natural and agricultural resources.

This issue of *Noxious Times* profiles the California Department of Food and Agriculture (CDFA) noxious weed programs. It clearly demonstrates our primary commitment to prevention and our emphasis on biological control as part of an integrated pest management approach. As a member of CINWCC, CDFA is committed to the good neighbor philosophy required to control and eradicate noxious weeds. ❖

Noxious Times is a publication of the California Interagency Noxious Weed Coordinating Committee. The committee was formed in 1995 when 14 federal, state, and county agencies came together under a Memorandum of Understanding to coordinate the management of noxious weeds. The committee's mission is to facilitate, promote, and coordinate the establishment of an Integrated Pest Management partnership between public and private land managers toward the eradication and control of noxious weeds on federal and state lands and on private lands adjacent to public lands.

The *Noxious Times* newsletter intends to help the committee achieve its goals of coordination and exchange of information by providing land managers throughout the state with information on weed control efforts, news, and successes.

Noxious Times is published quarterly by staff of the Integrated Pest Control Branch at the California Department of Food and Agriculture. We welcome submissions for our upcoming issues. Please send to: CA Department of Food and Agriculture, ATTN: Noxious Times, 1220 N Street, Room A-357, Sacramento, CA 95814 or e-mail: bhoffman@cdfa.ca.gov

If you have a colleague whose name you would like to add to our mailing list, please send mailing information to the address above.

Noxious Times Editorial Staff: Bonnie Hoffman, Pat Akers , Steve Schoenig
Text written by Bonnie Hoffman unless otherwise noted.

Park Service Crew Sets Their Sights on Tamarisk

By Bonnie Hoffman

What's new and trained, and works all over?....the National Park Service's recently formed Tamarisk Control Crew. Tamarisk (*Tamarix spp.*) is well known in the desert southwest as an aggressive invader of riparian areas. Roughly one million acres of public and private lands in the southwest are infested with tamarisk. As these infestations continue to spread, tamarisk has become an overwhelming challenge for park service managers charged with protecting natural ecosystems.

Members of the Tamarisk Control Crew at work against invasive weeds.

The Tam Crew, as they are known, was formed three years ago to make the control of tamarisk more achievable for individual parks. As a traveling, trained control crew specializing in tamarisk, the 5-10 member team works throughout the southwest on exotic plant infestations. Formed under a Department of Interior Weed Management Initiative, the team is hosted by the Lake Mead Recreation Area.

The crew operates with four main objectives: to complete initial tamarisk removal from high priority areas, to develop maintenance schedules for park staff, to develop a corps of NPS resource managers trained to continue exotic plant management programs, and to provide each work site with a complete working report.

After pre-season training in herbicide use and chainsaw operations, the crew spends 4-14 days at a park working on the initial removal of tamarisk stands. Occasionally other invasive weeds such as Russian olive, palo verde, and tree of heaven are treated as well. All work is documented and is then passed on to the park, including information on acreage treated, site maps, and recommendations. The park's staff are then responsible for follow-up efforts, including monitoring and revegetation. The crew also leaves park personnel with equipment, herbicide, and training so they can continue treating tamarisk sites. The Tam Crew coordinator works with park managers to determine which locations will be visited. Priorities are set according to accessability, riparian importance, watershed importance, and the overall "do-ability" of a project.

Already tamarisk has taken the crew from California to Colorado, and this year work is planned as far as Texas's Big Bend National Park. Many parks have reported high success rates in treated areas; some sites in Colorado National Monument reported 90%-95% mortality. Last year over 300 acres were treated and the crew is still going strong.

Many national parks in the desert southwest have tamarisk invasions, but not all have the funding and the trained staff to successfully control the weed's spread. With funding through a Natural Resource Preservation Program grant, and support from cooperating southwestern parks, the Tamarisk Crew has been a way for national parks to work together, sharing resources, to meet a common goal. While independent control efforts in the past have been costly and less effective, the results from this group approach show how coordination and prioritization can achieve more immediate and cost-effective success. ❖

Ian Torrence and Jane Rodgers contributed to this article. For more information contact Lake Mead National Recreation Area (702) 293-0178

Congratulations to the Recipients of California BLM's "War on Weeds" Minigrant

By Anne Knox

In this year's competition for the War on Weeds (WOW) minigrants, eight proposals were received and four were funded for a total of $15,000. The proposals were all reviewed and ranked by signatory representatives of the Noxious Weed MOU that attended the last meeting of the California Interagency Noxious Weed Coordinating Committee. The recipients were:

California Native Plant Society	Special weed issue of Fremontia	$8,100
East Sierra Weed Management Area	ID handbook, tamarisk video	$5,000
Lassen County SWAT Team	Weed prevention flyer	$1,400
Battle Creek Watershed Conservancy	Regional weed video	$500

All of the recipients will be using the WOW grant award for educational activities, which was the primary focus for this year. Based upon comments by the participating agencies, Weed Management Areas (WMAs) will be the primary focus for next year (given Congressional funding). As part of a Weed Management Area, your agency or organization will be eligible for more funding opportunities than as an individual. Another source of funding for Weed Management Areas is the Fish and Wildlife Foundation's "Pulling Together" noxious weed initiative. This large funding source is available every fall, so start working on your WMA proposal now! Contact your local BLM Field Office to find out more about Weed Management Areas, the "Pulling Together" grant initiative, and how you can get involved. ❖

"Pulling Together" Request for Proposals to Manage Invasive and Noxious Plants

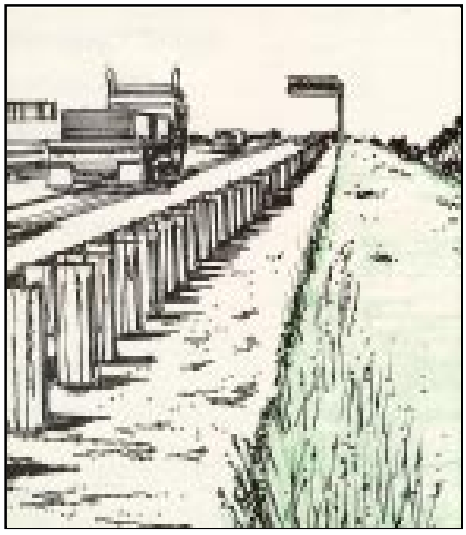
The National Fish and Wildlife Foundation (NFWF), in combination with a number of federal agencies, announced its request for proposals for funding under the 1999 Pulling Together Initiative. This initiative intends to facilitate the formation and development of weed management areas. In addition, it hopes to provide a means for federal agencies to enter partnerships with state and local agencies, private landowners, and other interested parties to develop long-term weed management projects using an integrated pest management strategy. Awarded funds must be matched with "challenge funds" generated by the grantee. The Pulling Together Initiative is part of a unified call for projects for a number of efforts to form public/private partnerships to benefit fish, wildlife, and plant resources. The deadline for proposals is November 17, 1998. For more information, contact Gary Kania, NFWF, (202) 857-0166, kania@nfwf.org, or visit www.nfwf.org/rfp-8-98.htm

Resource Conservation Districts: Request for Proposals

The Department of Conservation will again administer a grant program to provide funding for Resource Conservation District (RCD) projects that promote watershed management and conservation. Last year $120,000 was available to support a number of projects led by RCDs working to improve and sustain the health of California's watersheds. Individual RCDs are encouraged to work in partnership with other RCDs, public agencies, or private groups working within the same watershed. Eligible projects may include land restoration, habitat enhancement, urban or rural water quality and conservation, public outreach and education, and district capacity building. Look for proposal requests this fall. For more information, please contact Kathy Davis, Office of Land Conservation, at (916) 327-2145.

Caltrans: New Design Approaches Save Labor, Chemical Use Down the Road

By Bonnie Hoffman



The California Department of Transportation (Caltrans), the agency responsible for maintaining 15,000 miles of roadways and over 230,000 acres of roadside right-of-ways, has recently been making some changes. After the 1992 completion of an Environmental Impact Report on vegetation control, the agency developed a new perspective on roadside plant management with two goals in mind: to reduce the need for vegetation control and to reduce chemical use. An Integrated Vegetation Management program was adopted to look at many vegetation control options and select those that most closely met Caltrans's needs. The agency's main concerns for its vegetation control program include: increasing public safety and worker safety, improving environmental quality, reducing herbicide use, maintaining a cost-effective program, and improving public perception. Caltrans has, in the past, focused primarily on efficiently moving people on the road system. Now with additional considerations for reducing the need for vegetation control, new solutions and new design approaches have been adopted.

In an effort to reduce maintenance on existing roadside vegetation, Caltrans reexamined some of its standing policies. Attention was focused on tightening herbicide spraying plans; for instance a sprayed vegetation strip previously 8ft. wide could be reduced to 4ft. with no detrimental effect on driver visibility or fire safety. Spraying equipment has been improved to encourage "smart spray" techniques. Using sprayers that are more precise, both in the amount and location of herbicide application, reduces overall herbicide use.

While changes in management of existing vegetation help Caltrans to reach its new goals, adopting new approaches to the initial design of roadways has a lasting impact. Rather than applying the standard erosion control seed mixes that may later pose a fire safety problem, agency staff and cooperators have begun searching for low-growing, drought-tolerant plants that would require less mechanical and chemical control. Native species are likely to prove useful for roadside plantings. Other design elements under consideration include the treatment of the shoulder and guardrail areas. Standard shoulder backing, likely to support weed populations, may be replaced with soil treatments or with pavement. Caltrans has also been experimenting with dikes, stone overlays, and the use of herbicidal geofabric, a chemically-treated fabric covering designed to prevent weed growth. The search continues for other design features that may reduce the need for vegetation control later on.

A combination of careful design and a reduction in the need for control of existing vegetation should help Caltrans meet its goals of reducing herbicide use. From 1992 application use, Caltrans's goal is to cut herbicide use by 50% by the year 2000, and by 80% by the year 2012. While the incorporation of the new highway design strategies remains in the experimental phase, it has been a well-researched step in the right direction for an agency responsible for the management of a large portion of land in California. ❖

Larry Shields contributed to this article.

CalWeed Database Still Expanding

BY Steve Schoenig

The CalWeed Database continues to grow! The database now contains over 600 reports on weed control projects, and the browser interface pulls up another 150 coming out of our sister database of ecological restoration projects (CERPI). We are still trying to get more projects represented. In our search for more weed control projects, we are especially targeting non-governmental efforts and those being carried out on Department of Defense installations. Both of these types of projects are under-represented so far.

The El Nino rains have brought up a batch of yellow starthistle (YST) that has us all collectively rubbing our painful legs and asking "What can be done about this noxious weed?" Well, the CalWeed database now contains 68 project reports on YST control efforts throughout the state. See what methods are being used on YST, and get contact numbers for fellow land managers in your area who are dealing with this pest. ❖

Visit CalWeed at: http://endeavor.des.ucdavis.edu/weeds/

Profile

Weed Prevention an Department

By Pat Akers

Most California residents are familiar with yellow starthistle, the spiny noxious weed that covers rangelands and creeps along roadsides. Imagine going for a walk through the Sierran forests and being surrounded waist-high by other weed populations just as large-- spotted knapweed, perennial pepperweed, and Dalmatian toadflax. Some of these weeds may not sound familiar, and certainly are not as common as yellow starthistle, but they do have the power to become a serious threat. Many of these potential invaders have been kept at bay through the California Department of Food and Agriculture's work preventing and controlling the spread of invasive exotic weeds.

The California Department of Food and Agriculture (CDFA) is responsible for preventing the invasion of California by exotic agricultural pests. The pests that concern CDFA may be of any kind -- weed, insect, mammal, bird, reptile, or disease -- but always are foreign to California and threaten our agriculture or the environment. Pest prevention is a major part of CDFA's many different functions, particularly in the Plant Health and Pest Prevention Service (PHPPS), formerly the Division of Plant Industry. The County Agricultural Commissioner's Office (CAC) in each county also plays a very important role in pest prevention. The commissioners work closely with CDFA and conduct many of the pest detection and plant quarantine activities in cooperation with the Department.

The strategy for pest prevention is similar for all kinds of agricultural pests. It consists of four major components: 1) keeping exotic pests from ever entering California ("exclusion"); 2) finding invading pest populations while they are still small ("detection"); 3) getting rid of such populations so California is once again free of the pest ("eradication"); 4) and educating the public so this state's citizens will understand the importance of keeping California free of new pests. CDFA also performs pest control and mitigation activities, which help to reduce the impact of exotic pests that have become widely established and can not be eliminated from California.

Pest exclusion, detection, eradication, and control are the major tasks facing PHPPS, and its organization reflects the pest prevention strategy. PHPPS is divided into four branches: Pest Exclusion, Pest Detection/ Emergency Projects, Integrated Pest Control, and Plant Pest Diagnostics. The Pest Exclusion Branch is responsible for all exclusion activities, including those related to noxious weeds. The Pest Detection/Emergency Projects Branch is primarily responsible for detection and eradication programs against insects, other invertebrates, and plant diseases. The Integrated Pest Control Branch is responsible for the detection, eradication, and control of weed and vertebrate pests, as well as some control programs against specific insect and disease pests. The remaining branch in PHPPS is the Plant Pest Diagnostics Center, which provides important pest identification services to the inspectors and field biologists in the other three branches and the CAC offices.

What is a Noxious Weed?

California laws, found in the California Food and Agricultural Code

(FAC), require that CDFA "shall prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds." The Secretary of CDFA has the authority to propose and adopt regulations that are necessary to carry out the FAC statutes. Legally, a "noxious weed" is any species of plant that the Department declares to be a threat, placing it on CDFA's list of noxious weeds. Any person can propose a plant for inclusion on the list by bringing the plant to the attention of the State Botanist or the Primary State Biologist. These scientists will consult with other staff in the Department and request comments from the CACs. If the weed is found to be potentially "troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate," the Department will designate the plant as a noxious weed.

At the time that CDFA lists a species, it also receives a pest rating of "A", "B", "C", "D", or "Q". These ratings reflect CDFA's view of the

d Control in the California of Food and Agriculture

statewide importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution, if any, of the pest within the state. The ratings are policy guidelines that indicate the most appropriate action to take against a pest under general circumstances. Local conditions may dictate more stringent actions at the discretion of the CAC, and the rating may change as circumstances change or more information becomes available. An "A"-rated pest is an organism of known economic importance, and is subject to action by CDFA including eradication, quarantine, containment, rejection of shipments, or other holding actions. A "B"-rated pest is subject to action by CDFA only when it is found in a nursery, and otherwise is subject to eradication, containment, control, or holding action at the discretion of individual CACs. A "C"-rated pest is not subject to state action except to provide for general pest cleanliness in nurseries. Individual CACs may elect to take additional action against the pest within their counties. A "D" rating indicates that an organism is of little or no economic importance and no action is taken against it. A "Q"-rated pest is a newly detected organism that seems likely to be of economic importance, but information on it is limited. These pests are treated as "A"-rated pests, pending a full evaluation. A copy of the California Noxious Weed List can be obtained from the Plant Pest Diagnostic Branch.

Some weed pest regulations are derived from federal laws, including The Federal Noxious Weed Act and The Federal Seed Act. Certain weeds are listed by the United States Department of Agriculture (USDA) as noxious and require a special permit to be moved interstate or be brought into the U.S. from other countries. Within California, a state permit is sufficient in order to move or use any weed species. A state permit is also necessary for the importation of weed species from other states and countries if the USDA does not regulate the species.

The Role of the Pest Exclusion Branch

Inspection staff from CDFA and the CACs cooperate in the effort to keep exotic pests out of California. They have the authority to enter premises in the state to inspect plant material or related items and may conduct surveys or investigations to detect possible pests.

CDFA may also establish and enforce quarantines against noxious weeds, with boundaries either at the state's borders or elsewhere within the state. For example, most Californians are familiar with the inspection stations

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"A"-Rated Noxious Weeds

Acaena novae-zelandiae	biddy-biddy
Acaena pallida	pale biddy-biddy
Achnatherum brachychaetum	punagrass
Alhagi pseudalhagi	camelthorn
Alternanthera philoxeroides	alligatorweed
Arctotheca calendula	fertile capeweed
Carduus acanthoides	plumeless thistle
Carduus nutans	musk thistle
Carthamus leucocaulos	whitestem distaff thistle
Centaurea diffusa	diffuse knapweed
Centaurea iberica	Iberian starthistle
Centaurea maculosa	spotted knapweed
Centaurea squarrosa	squarrose knapweed
Chondrilla juncea	skeletonweed
Cirsium ochrocentrum	yellowspine thistle
Cirsium undulatum	wavyleaf thistle
Crupina vulgaris	common crupina; bearded creeper
Cucumis melo v. dudaim	dudaim melon
Cuscuta reflexa	giant dodder
Euphorbia esula	leafy spurge
Euphorbia serrata	serrate spurge
Halimodendron halodendron	Russian salttree
Halogeton glomeratus	halogeton
Helianthus ciliaris	blueweed
Heteropogon contortus	tanglehead
Hydrilla verticillata	hydrilla
Linaria genistifolia spp. dalmatica	Dalmatian toadflax
Onopordum acanthium	Scotch thistle
Onopordum illyricum	Illyrian thistle
Onopordum tauricum	Taurian thistle
Orobanche cooperi	Cooper's or desert broomrape
Orobanche ramosa	branched broomrape
Peganum harmala	harmel
Physalis virginiana v. sonorae	smooth groundcherry
Prosopis strombulifera	creeping mesquite
Salsola damascena	wormleaf salsola
Salvia virgata	meadow sage
Scolymus hispanicus	golden thistle
Solanum cardiophyllum	heartleaf nightshade
Solanum dimidiatum	Torrey's nightshade
Sonchus arvensis	perennial sowthistle
Sphaerophysa salsula	Austrian peaweed
Striga asiatica	witchweed
Tagetes minuta	wild marigold
Zygophyllum fabago	Syrian beancaper

Minutes of CINWCC Meeting Pleasant Hill, CA July 8, 1998

News & Announcements

• *California Department of Food and Agriculture:* (1) Dow AgroSciences plans to petition the Department of Pesticide Regulation soon for the re-registration of Tordon, for use by government agencies. Tordon is perhaps the most generally effective herbicide in eradication projects. (2) Two new insects have been released against purple loosestrife in Northern California and appear to be establishing themselves. (3) Les Wright has resigned as Agricultural Commissioner for Modoc County and will no longer represent the Agricultural Commissioners on the Committee.

• *US Forest Service:* Washington headquarters has developed procedures to define areas infested with noxious weeds, which will help in reporting infestations in a uniform manner.

• *Bureau of Land Management:* (1) Congress has provided $3 million for weed control nationwide next year, a significant increase. (2) BLM is a member of a group of government agencies responsible for land management in the Southwest deserts. This group is working through the Department of the Interior to apply for $4 million per year for the next 5 years to be used for environmental restoration, including weed control.

• *Agricultural Commissioners' Association:* Nurseries sometimes legally sell plant species that are known to have invasive characteristics. The Association is working with the nursery industry to develop a voluntary program that will address this problem. The first goal is to develop a list of species of concern.

• *US Department of Agriculture, Agricultural Research Service:* (1) A new weevil that attacks Scotch thistle has arrived for safety testing. (2) New efforts are being organized to find undiscovered natural enemies of yellow starthistle and Cape ivy. (3) The USDA is working with the US Fish and Wildlife Service to determine potential sites for the release of biocontrol agents for tamarisk. Release sites would be chosen to avoid southwestern willow flycatcher nesting sites.

General Business

• The Committee was pleased to welcome Ray Carruthers of USDA-ARS, who has just moved from the Washington, D.C., headquarters to become the weed research leader for the California/Nevada area (See article *Noxious Times* Summer 1998.)

• The Committee reviewed the efforts to begin a management plan for Scotch broom. Steve Schoenig reported that the consulting firm Jones & Stokes has a contract from the CA Department of Forestry to review the biology of broom and examine local management options. That report is due by the end of September and the Committee agreed to wait for its publication, to avoid duplication of effort. Mike Pitcairn reported on a potential biocontrol agent, a weevil, that has already been introduced into the eastern US. The weevil was tested on a variety of western legumes, including lupines, and did not damage them.

• The Committee developed a list of potential contacts in the Department of Defense. These contacts will be used to try to increase participation by that agency.

• Steve Schoenig reported briefly on the progress of the Weed Project Database (CalWeed).

• CDFA staff reported on the publication of the first issue of the newsletter. We developed a mailing list of 930 names which received the inaugural issue.

• Nate Dechoretz initiated a discussion of biocontrol of Russian thistle (tumbleweed). Mike Pitcairn reported that exploration for control agents was proceeding well in Turkey, Kazakstan, and China, with 4-6 promising agents already found. The USDA expressed the hope that exploration would continue so an ample pool of candidates can be developed.

• Nate Dechoretz started a discussion of ways to fund projects of interest to the Committee. Discussion indicated that many agencies would have policy difficulties in contributing to a general fund, rather than specific projects. An alternative may be for the Committee to first identify specific projects, and then solicit each agency to contribute a portion. Nate also requested agency representatives to identify the best person to contact about providing funds. ❖

the next CINWCC Meeting will be held on:

OCTOBER 2, 1998
9:00-11:30 am
Ontario Airport Hilton
Ontario, CA

The meeting will precede the CA Exotic Pest Plant Council (CalEPPC) Symposium.
(see Upcoming Events section)

Forage *continued from page 1*

Current Weed-Free Programs

Within the past 10 years, a number of states have developed weed-free forage programs. Colorado, in 1996, began the first statewide weed-free forage program. In 1997 Colorado inspectors certified 5,607 acres of feed from 103 producers. Montana currently requires certified weed-free feed and mulch on all USFS and BLM lands within the state. Montana's national parks, including Glacier and Yellowstone, follow the weed-free guidelines as well. In Montana, farmers pay $1.50 per acre inspected for certification, but then sell certified feed for roughly 45% more than non-certified feed. Utah, Idaho, Nebraska, and Wyoming have weed-free forage requirements on some federally managed lands.

In addition to statewide efforts, an organization of approximately 15 Midwestern and Northwestern states has created the Regional Noxious Weed Free Forage Program. Their certification guidelines, with 60 weeds on the regional list, ensure consistency for certified forage that is transported across county, state, and national borders.

Weed-Free Forage in California

California does not yet have a state certification program for forage crops but has been working to create a draft proposal. The USFS, BLM, CA Department of Food and Agriculture, and County Agricultural Commissioners have come together to establish guidelines for certification and implementation of such a program. Under the proposed program, ultimate authority for certification would fall under the Pest Exclusion Branch of CDFA although field inspections would be the responsibility of county agricultural commissioners. Because similar inspection programs already exist for other crops and for some feed shipped outside the U.S., a program would be relatively easy to develop. Until state guidelines are set, the BLM and Forest Service have resisted issuing closure orders on their land.

The Future of Weed-Free Forage

While interest in weed-free feed programs continues to increase, some groups have also voiced their concerns over such requirements. The California Cattleman's Association supports efforts to control noxious weeds, but worries that outfitters, guides, and horseback riders will bear the burden of such a program in the form of increased feed costs. While the issue of "who pays" remains, it is undoubtedly more efficient, and cost-effective, to prevent the introduction of invasive weeds than to attempt to control established populations.

Another concern for weed-free forage programs is the importance of coordinating the timing of land closures with the establishment of feed certification standards. Farmers must know there will be a demand for weed-free feed before they will certify their crops. At the same time, federal land managers must be assured that an adequate supply of affordable forage will be available locally before land closures can be instituted. Often, a grace period of one to two years is permitted after the initial closure of an area to allow the supply and demand of certified feed to reach a suitable balance.

Ultimately the success of a weed-free forage program will depend on how well each agency fulfills its role. County inspections must truly ensure that forage is free of noxious weeds, and federal landowners must enforce their closure orders to prevent the use of non-certified feed in closed areas. Examining established programs in other states should provide information on their effectiveness in excluding invasive weeds, and should allow the development of a California program to run more smoothly. Weed-free forage programs on federal lands appear to be an increasingly popular prevention tool as the nation continues to step up efforts to control noxious weeds. ❖

Anne Knox and Cheri Rohrer contributed to this article. For more information contact Anne Knox, BLM (916) 978-5038 or Cheri Rohrer, USFS (415) 705-2545

Tordon 22K Registration Petition Submitted

Dow AgroSciences has recently submitted a petition for the registration of Tordon 22K (picloram) in California. The petition asks the Department of Pesticide Regulation to approve Tordon 22K for noxious weed control in California. If approved, the herbicide would become available to federal, state, county, and municipal agencies for use on rangelands and non-crop land. Tordon 22K has been effective against a number of invasive weeds, including Scotch thistle, Canada thistle, yellow starthistle, rush skeletonweed, and leafy spurge. For more information contact Vanelle Carrithers (503) 829-4933.

Now, Stalk and Chop Noxious Trees

The herbicide products Stalker and Chopper (imazapyr) were both registered this May for use in California. Produced by American Cyanamid, both products are recommended for control of brush and woody vegetation in non-crop land areas. They are likely to be useful tools against certain noxious tree weeds such as eucalyptus, tree of heaven, Russian olive, and tamarisk. Arsenal, another formulation of imazapyr, is posted for registration in California and is expected to be approved this fall. For more information contact Don Colbert (209) 369-1102

CDFA *continued from page 7*

on the highways near the state borders. More than 30 million vehicles enter California annually, and any of them may carry plant materials, such as noxious weeds, which are quarantined from entering California. Any vehicle may be inspected as it passes one of the 16 state border stations. The inspectors there ask travelers to declare any plant material they may be carrying and to have it easily accessible for examination. Any material found to be transporting noxious weeds or their seeds will be held until it can be evaluated for its potential to create a problem in the state. The material will be refused entry if it carries pests.

CDFA inspectors also work at other locations where exotic pests are likely to enter the state. CDFA port biologists inspect domestic aircraft, and second port-of-call foreign and domestic vessels, including crew quarters, passenger baggage and cargo shipments, for agricultural pests or prohibited items. The USDA also works at ports and airports, cooperating with CDFA in the inspection of materials entering the state. Along with county agricultural inspectors, state inspectors also survey commercial nurseries for weed pests, examine plant material entering the state through parcel shipping facilities, and inspect rail freight shipments for incoming pest problems, including noxious weeds.

The Role of the Integrated Pest Control Branch

The Integrated Pest Control Branch (IPC) has three major ongoing programs that directly involve the control of weeds:

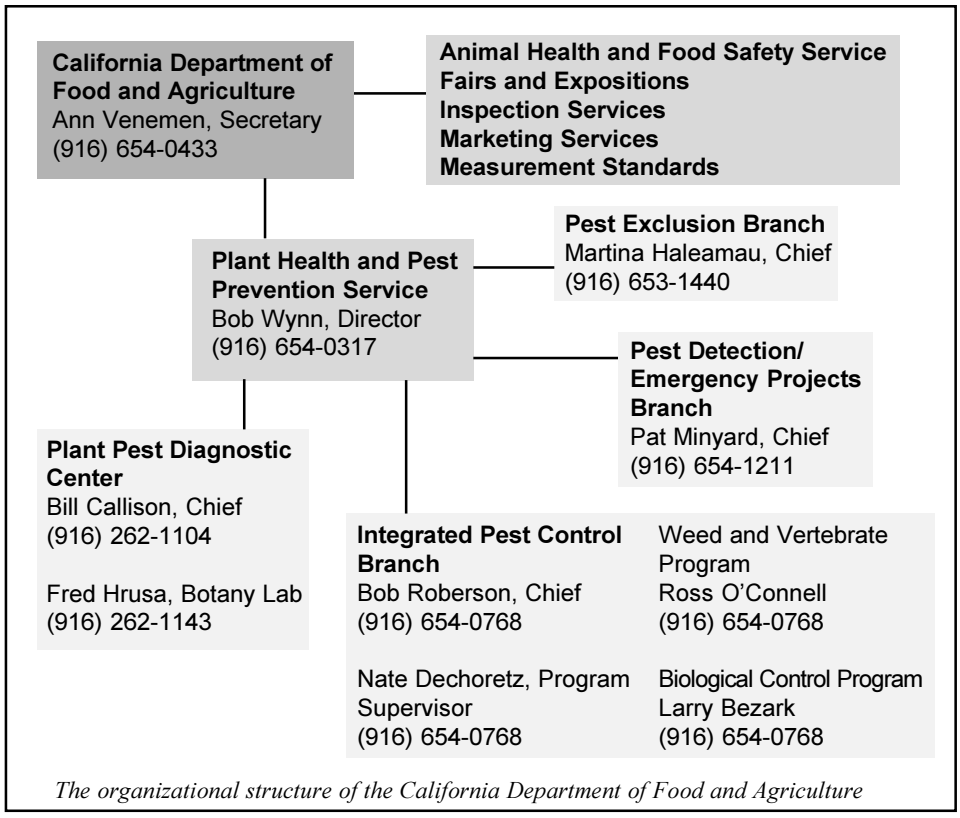
1) the Weed and Vertebrate Program (Weed & Vert),

2) the Hydrilla Eradication Program, and

3) the Biological Control Program.

In addition, IPC has a Noxious Weed Information Management Team which assists the three programs with technical support. The Weed & Vert Program is largely focused on the detection and eradication of "A"-rated weed populations. The Hydrilla program is very similar but focuses on a specific aquatic weed of special concern. The Biological Control program, in cooperation with the USDA and the University of California, brings natural enemies of pests into the state to permanently reduce pest populations. The Noxious Weed Information Management Team is developing a GIS and database system for the mapping and tracking of "A"-rated weed populations. The team also works on an internet database and newsletter for the California Interagency Noxious Weed Coordinating Committee.

Ten biologists work in Weed & Vert across the state, organized into eight districts of four to nine counties each. The biologists work closely with staff in the CAC's office to detect and eradicate the weeds of concern in their districts.



The organizational structure of the California Department of Food and Agriculture

Generally, the CAC takes the lead role on all weed projects in a county, with the CDFA biologist supporting and advising the county staff. Depending on county preference, however, the state biologist may take more direct responsibility for weed control in a particular county. The state biologists often work on hydrilla detection and smaller hydrilla eradication projects in their districts as well. There are also two hydrilla eradication projects in California which are large enough to each have their own project supervisors.

IPC's major weed problems are not distributed evenly throughout the state. The majority of large control projects are in the northeastern four counties, where Scotch thistle is a major target. The northern fourth of the state also has large populations of a variety of other "A"-rated weeds, including spotted knapweed, leafy spurge, musk thistle, Dalmatian toadflax, and squarrose knapweed. Generally

fewer weed species, and smaller infestations, are found in southern California.

The Biological Control Program goes into action once a pest has become well established in California. Biocontrol is often a preferred pest control strategy because it provides long-term control and reduces the need for herbicides. Of the program's 13 permanent staff, four scientists work primarily on weed problems, four on insect problems, and four staff and one manager provide support. Biological control of weeds is a lengthy process involving several major steps. Many of the earliest steps are often undertaken by other agencies, particularly the USDA or the University. CDFA, however, is responsible for establishing, distributing, and evaluating the impact of the natural enemies once they are available. This involves rearing large numbers of natural enemies and releasing them in many different situations to give them the best possible opportunity to become established. In recent years, the Biological Control Program has directed most of its efforts towards the establishment of five different natural enemies for control of yellow starthistle. Other weed projects within the Biocontrol Program are directed at controlling Russian thistle (tumbleweed), purple loosestrife, bull thistle, spotted knapweed, diffuse knapweed, and squarrose knapweed.

The Noxious Weed Information Management Team has brought the use of GIS/GPS technology and laptop database systems to the Weed & Vert biologists. This has enabled the biologists to locate and accurately map the "A"-rated weeds in their districts. With the use of a GIS/GPS system, they will be able to analyze trends in weed population size, more accurately execute their control treatments, and better guide their detection efforts in uninfested areas.

The Role of The Plant Pest Diagnostic Center

Within the Plant Pest Diagnostic Center, the Botany Laboratory handles plant identifications. The laboratory, led by the State Botanist, identifies both weeds and host plants of insects, plant diseases, and plant parasitic nematodes. It also serves as a reference source of botanical information for the Department. CDFA biologists and county personnel provide most of the plant specimens sent to the Botany Laboratory. The laboratory's prompt identifications have aided in pinpointing the distribution of the major weed pests in the state. In 1994, the Botany Laboratory made 1,018 plant identifications and provided 305 consultations.

The Role of the Public

Despite all the legal, regulatory, and control efforts, there would be little chance of success without the cooperation and support of a knowledgeable and concerned public. By fully complying with our laws and regulations, the citizens of this state help to ensure that California continues to successfully exclude noxious weed pests on a daily, statewide basis.

Through the four branches of the Plant Health and Pest Prevention Service, the California Department of Food and Agriculture works to prevent, detect, eradicate, and control noxious weed infestations. Working in conjunction with county and federal agencies, CDFA fills an important role in eliminating and containing aggressive plant species that are introduced into the state. ❖

Barbara Hass and Jeff Hillard contributed to this article.

Agenda for Upcoming CINWCC Meeting October 2, 1998 9:00 -11:30 am

Ontario Airport Hilton Ontario, CA

* Introductions (especially new participants)

* Agency Reports
  - CDFA - Biological Control of Weeds Consortium Meeting
  - USDA-ARS - Exotic and Invasive Research Unit customer meeting report
  - Ag Commissioners - Sale of legal but invasive species by nurseries
  - Other agency reports

* Department of Defense Update

* Database/Newsletter Update

* Creation of a Research Subcommittee: Discussion of how CINWCC can prioritize and support research needs in noxious weed control. Define mission and tasks of subcommittee. Nominate representatives.

This meeting is happening just prior to the California Exotic Pest Plant Council (CalEPPC) Symposium in the same hotel. If you need information about the Symposium call Sally Davis at 949-888-8347 or email at sallydavis@aol.com

Change-in-Address or Add a Friend

If you have a change to make to your address as it appears on the label, or if you would like to add a colleague to our mailing list, please fill out and send in this form.

Name: _____

Organization: _____

Address: _____

City,State,Zip: _____

Please mail to: CDFA attn: Noxious Times, 1220 N St., Room A-357, Sacramento, CA 95814

Upcoming Events:

October 2-4, 1998. CalEPPC Symposium '98. Ontario, CA. Contact: Sally Davis (949) 888-8347, sallydavis@aol.com

October 8 & 9, 1998. California Lake Management Society. Corte Madera, CA. The 13th Annual meeting of CALMS will include sessions on watershed management, fisheries and municipal water demands in northern California. Contact: CALMS, 6411 Redwood Road, Oakland, CA 94619

December 10, 1998. International Weed Resistance Symposium, North Central Weed Science Society Meeting. St. Paul, MN.

January 8-10, 1999. 51st Annual California Weed Science Society Meetings. Anaheim, CA. Contact: Wanda Graves (510) 790-1252.

February 8-10, 1999. Weed Science Society of America Annual Meeting. San Diego, CA. Contact: J. Breithaupt, (913) 843-1235, jbreith@allenpress.com

Resources and Publications:

Integrated Systems for Noxious Weed Management on Rangelands. Weed Technology. 1998. 12:325-405. Proceedings from this symposium, jointly sponsored by the Society for Range Management and the Weed Science Society of America, were submitted to Weed Technology for publication. Symposium presentations included discussions of noxious weeds, brush species, and introduced weeds on rangelands.

Integrated Vegetation Management Guide. Published through the Bio-Integral Resource Center (BIRC), the booklet contains guidelines for developing integrated weed control plans as well as specific information on a number of problem weeds. Ten species-specific bulletins discuss a weed's life history and offer suggestions for control. Copies of the complete guide, or single bulletins, are available through BIRC. (510) 524-2567; P.O. Box 7414 Berkeley, CA 94707.

Natural Enemies Handbook. 1998. Published through the University of California's Statewide Integrated Pest Management Project, this illustrated guide provides useful information for the identification and use of biocontrol agents. Paperbound copy $35, Hardbound $50. For ordering information call 1-800-994-8849.

Plant Invaders: A Threat to California's Remnant Natural Areas. This informational video explores the problem of invasive plants in California, offering both an overview on the impact of invasives and a more detailed look at some of the worst invaders. Copies ($21 each) are available through Leif Joslyn. 62 Stratford Rd, Kensington, CA 94707. (510) 527-2500. leifjoslyn@earthlink.net

Wilcove, D.S. et al. 1998. **Quantifying Threats to Imperiled Species in the United States**. BioScience. 48:607-615. A close look at the environmental factors threatening the nation's biodiversity reveals that invasion by non-native species is the second largest threat to endangered plants and animals. While loss of habitat remains the most lethal factor, alien invasions threaten nearly half of all imperiled species. The authors conclude that the increase of alien species, coupled with their impact on natives, suggests this threat may be more serious than originally believed.

California Interagency Noxious Weed Coordinating Committee
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Sacramento, CA 95814

address correction
requested